USAF
8-Step A3 Certification Rubric

3.0

Indentify Effectiveness or Efficiency (Eff²) Targets(s): Should Include Cycle-Time (CT), Cost Per Unit (CPU), Defect Rate (DR), and/or Process Variation (PV), any of these should have positive impact on Customer Satisfaction.

Please Circle Target: CT CPU DR PV

1. Clarify & Validate the Problem

Criteria: A clearly developed problem statement will describe the current state with respect to the 4Ws. It will identify what is happening and compare that to a standard or customer requirement; where the process takes place; when and at what frequency the problem occurred, and who is affected. It provides clarity as to the improvement opportunity and the degree by which the process is failing in measurable terms. It will represent the current condition that the reader (not just the writer) can understand with a visual representation based on data that validates the existence of a problem. It does not include solutions, countermeasures or possible root causes and avoids straight text summaries.

Does not meet: Contains a loosely defined problem statement that does not provide sufficient guidance or scope of the 4 Ws. Does not clearly describe either what it is they are trying to solve or why. The statement contains root cause(s), solution(s) and/or countermeasure(s)and relies purely on text to depict the current state.

Meets: Contains an adequately defined problem statement that shows performance against a standard with scope and direction for the team, but may not address all of the 4 Ws. The statement does not make assumptions to a root cause, solution and/or countermeasure and includes visual tools that depict the current state.

Exceeds: Includes all requirements from "meets" above, addresses all 4Ws and frames the problem in relation to a performance standard. It identifies the importance of a solution to the organization (i.e., alignment to priorities/goals/mission) using visual tool(s) that "factually" tell the story.

2. Break Down the Problem/Identify Performance Gaps

Criteria: Effectively frames and supports the problem in Step 1 with VoC, data and visual representation to present a clear understanding of the current process and associated performance gaps.

Does not meet: Information presented does not address the problem statement or current performance. The information provided is subjective, opinionated and not based on collected data or there are undefined assumptions regarding the data's meaning or credibility.

Meets: Information presented supports the problem in Step 1. The data collected is shown in a format that confirms there is a problem and is depicted in a visual representation with appropriate tool usage.

Exceeds: Information is presented in a manner that clearly confirms and supports the problem statement in Step 1. The Voice of the Customer and the performance gap is clearly illustrated and facilitates root cause analysis tools for Step 4. Displayed mastery of tool selection and usage.

3. Set Improvement Target

Criteria: The stated improvement target clearly addresses the problem statement in Step 1 and does not introduce additional targets outside of the stated problem. The improvement target state illustrates the performance gap in Step 2 and contains all of the SMART characteristics associated with a target.

Does not meet: The target does not show a tie to the stated problem in Step 1, only addresses two of the six SMART characteristics of an improvement target or introduces additional targets that are not within the scope of the problem statement.

Meets: The target is adequately defined, links to the problem statement in Step 1 and contains at least three of the SMART characteristics of an improvement target.

Exceeds: The target is well defined, has an obvious tie to the problem statement in Step 1 and contains *All* Five of the SMART characteristics (Specific, Measurable, Attainable, Results focused, and Time-bound).

4. Determine Root Cause

Criteria: Appropriate tool(s) are selected and utilized to identify the root cause(s) and displays an obvious cause and effect relationship to the problem stated in Step 1. The approach is documented, logical and follows a structured approach in determining likely root causes. There is convincing data to support a strong alignment to the improvement opportunity.

Does not meet: The tool(s) utilized were not sufficient to reach the root cause(s) and there is no logical thought process demonstrated that leads to the identification of the root cause. Additionally, there is no demonstrated cause and effect relationship to the problem stated in Step 1 or logical linkage to the performance gap(s) identified in Step 2.

Meets: Appropriate tool(s) were utilized to reach a plausible root cause(s) to the problem stated in Step 1 and demonstrated a cause and effect relationship to the performance gap identified in Step 2.

Exceeds: Root cause analysis tool(s) utilized logically identified the root cause(s) to the problem stated in Step 1 and strongly demonstrated a cause and effect relationship to the performance gap identified in Step 2.

5. Develop Countermeasures

Criteria: The most practical and effective countermeasure selection tools were used and visually depicts selection methodologies. The countermeasures developed drew from one of the four Process Improvement Philosophies (Lean, Six Sigma, BPR, TOC). They are prioritized based on impact (practicality, effectiveness, quality and/or acceptance), logically address the root cause(s) identified in Step 4, enduring in nature, and when implemented, will result in positive progression toward the target in Step 3.

Does not meet: The countermeasures developed do not correlate to the root cause(s) identified in Step 4 or the target in Step 3.

Meets: Clearly depicts what countermeasure selection tools were utilized. One of the four Process Improvement Philosophies are utilized to develop countermeasures. They are prioritized, adequately address the root cause(s) identified in Step 4 and will result in positive progression toward the target in Step 3.

Exceeds: The most practical and effective countermeasure selection tools are used and clearly depict the most effective selection methodologies. The developed countermeasures draw from one of the four Process Improvement Philosophies and clearly address the root cause(s) identified in Step 4. They are prioritized based on impact (practicality, effectiveness, quality and/or acceptance), enduring in nature, will result in positive progression toward the target in Step 3.

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6. See Countermeasures Through

Criteria: Detailed implementation plans for each of the countermeasures approved in Block 5 have been developed to include tasks, POCs and a timeline. All countermeasures have been implemented or on schedule or have been deemed unnecessary as target state has been met.

Does not meet: Actions lacked prioritization, are not clearly linked to the countermeasures in Block 5, do not identify an action officer and some items completion dates may have been exceeded. There are countermeasures identified in Step 5 that have no implementation plan or explanation of why a plan is not necessary.

Meets: Actions have adequate prioritization and all countermeasures have an implementation plan. The majority of actions and/or countermeasures have been completed and others are on track. If not on track, detailed analysis of cause is provided.

Exceeds: All countermeasures to achieve target condition are on schedule or have been implemented. New process is being measured to confirm results.

7. Confirm Results & Process

Criteria: Data captured and depicted confirms improvement(s) when compared to performance gap(s) identified in Steps 1 and 2 and the improvement target(s) in Step 3.

Does not meet: Stated results failed to meet the improvement target and no further analysis was offered or the results are unrelated to the target in Step 3.

Meets: Confirmed results are illustrated with appropriate data tool(s) which link back to the performance gap(s) in Step 2 and the improvement targets(s) in Step 3. If improvement target was not achieved, a detailed analysis was provided and a plan to achieve the target is offered.

8. Standardize Successful Processes

Criteria: The countermeasure(s) continue to be monitored, be reported, and drive leadership action when it shows negative movement. Training on the improved process has been completed and standard work has been put in place. The improved process has been institutionalized in the appropriate guidance (Operating Instruction, AFI, Technical Data, and/or Policy Letter). Measures adopted have been identified as Key Performance Indicators for the organization or are linked to KPIs. The improved process with proven results has been put forth for replication and/or benchmarking.

Does not meet: The standard work has not been adopted and no policy has been implemented to ensure sustainability.

Meets: The improved process continues to be monitored, be reported, and drive leadership action when it shows negative movement, training has been completed and the improved process has become standard work.

Exceeds: The appropriate process monitoring tool has been left with the owner and continues to be monitored, reported, and drives action when it shows negative movement. Training on the improved process has been completed and has become standard work. The improved process has been institutionalized in the appropriate guidance e.g. (Operating Instruction, AFI, Technical Data, and/or Policy Letter). Measures adopted have been identified as Key Performance Indicators for the organization or are linked to KPIs. The improved process has been submitted for replication and/or benchmarking.

8 Step with A3 Thinking Emphasis

USAF Problem-Solving Process

8-Step Problem Solving Process

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1. Clarify & Validate the Problem

- A3 Thinker desires to:
  - Thoroughly understand the problem from the customer's perspective
  - Factually (objective) confirm (validate) the problem exist by collecting data
  - Display objective data confirming problem validation
  - Use validated "pain" data to assist in garnering leadership support
  - Make the Problem Statement (PS) clear, free of confusion, understandable
  - Ensure the Voice of the Customer (VOC) heard in the problem statement
  - Translate the VOC to a Critical to Quality (CTQ) attribute
    - Takes too long (Cycle Time) (CT)
    - Cost too Much (Cost per Unit) (CPU)
    - Poor quality (Defect Rate) (DR)
    - Too much variation (Process Variation) (PV) (Note: Customer complaints about PV could be variation in CT, CPI, or DR
  - Have enough representative data to support the "ugly baby"
  - Have a legitimate data source
  - Have data that can withstand outside scrutiny
  - Utilize good data display tool(s)
  - Inspire leadership commitment to follow through at Steps 6, 7, and 8. Clearly illustrate the "pain" being suffered and highlight the importance of solving the problem

2. Break Down the Problem/Identify Performance Gaps

- A3 Thinker desires to:
  - Maintain the CTQ from Step 1
  - Break the Problem down:
    - Define the scope (start/stop points) of the process
    - Understand who all the process owners are
  - Identify the Performance Gap(s):
    - Set the stage for change management by clearly illustrating how current process is not meeting customer expectation/given standard
    - Have objective data supporting your gap conclusions
  - Utilize good data display tool(s)

3. Set Improvement Target

- A3 Thinker desires to:
  - Maintain the CTQ from Steps 1 and 2
  - Set target(s) using SMART
  - Avoid setting target(s) above customer requirement or standard simply because you can…avoids wasted resources (overproduction)
  - Develop Team Lead into "Rock Star" for tollgate status brief
  - Utilize good data display tool(s)

4. Determine Root Cause

- A3 Thinker desires to:
  - Utilize tools/techniques that ensure all team member voices are heard
  - "Open the Funnel" – get as many root causes identified as you can
    - Identify root causes until sick of it (do 5-Whys many times on the same starting statement)
  - "Close the Funnel" – select the most prominent root causes to attack
    - Narrow down the most probable root causes
  - Collect objective data supporting the frequency of occurrence of suspected root cause(s)
  - Put root causes not selected during "Close the Funnel" in "parking lot"
  - Utilize good data display tool(s)

5. Develop Countermeasures

- A3 Thinker desires to:
  - Keep positive impact on the Performance Gap identified in Step 2 and Target at Step 3 the first priority criteria when selecting and developing countermeasures
  - Utilize tools/techniques that ensure all team member voices are heard
  - Anticipate resistance to the countermeasures and work to eliminate/minimize them
  - Apply tools/techniques that help "sell" selected countermeasures
  - Further develop Team Lead into "Rock Star" for tollgate status brief

6. See Countermeasures Through

- A3 Thinker desires to:
  - Maintain momentum by communicating with implementers the expected goodness that will come from implementation
  - Have high confidence that the countermeasures about to be implemented will address the "pain"
  - Devise implementation plans appropriate for the complexity level of the countermeasure, go well beyond simply listing the countermeasures, the POC, and the expected date of completion
  - Have leadership's "eager" support to implement due to anticipation of a better way of doing business

7. Confirm Results & Process

- The A3 Thinker desires to:
  - Set up collect process to measure the effects of the implemented countermeasures and compare them to the Step 3 target
  - Fully expect the results to positively affect the problem
  - Claim victory over the problem with factual data gathered from the "new" process, validate the improvement
  - Stand in the shadows and allow the "team" to be in the spotlight
  - Recognize if the expected results are not realized, the team failed to have a good enough understanding of the problem at Step 1
  - Be able to, assuming expected improvements were not achieved, to know whether it was lack of understanding the problem or faulty countermeasure implementation that produced poor results

8. Standardize Successful Processes

- A3 Thinker desires to:
  - Break, if possible, the "old" process to eliminate the possibility of returning to the old way of doing business
  - Develop and leave in-place a performance measure
  - Have team members depart with appreciation of the 8 Step method
  - Have team member depart with both a sense of obligation and increased capability to solve other problems
  - Have Commander impressed with the results, clamoring for more
  - Implement, where possible, standard work
  - Set up future revisit dates to check if improvements have held
  - Put the "C" in CPI by revisiting the "parking lot" for potential next round of CPI; Take on a scientific method of inquiry mentality demonstrated by repeated experimentation
  - Facilitate replication of the success